

THE EXPERTS
Robson Forensic

KENNETH J. KUTCHEK, P.E., CFEI
Electrical Engineering, Industrial Machinery, Workplace Safety

PROFESSIONAL EXPERIENCE

2015 to present **Robson Forensic, Inc.**
Associate

Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving design, construction, operation, maintenance and training of electrical systems, equipment and devices. Areas of expertise include:

Industrial Controls and Automation: electrical controls, hydraulics, pneumatics, manufacturing, assembly lines, warehousing, conveyors, robotics, automated storage and retrieval systems (ASRS), instrumentation, motion control, process control, heaters, ovens, presses, grinders, cutting, broaching, stamping presses, vision systems, motor controls, motion control, electrical control panels, PLC, HMI, MES, SCADA, data collection, alarming, digital devices, limit switches, proximity switches, photo-electric sensors, photo-eyes, ultrasonic sensors, level switches, flow switches, pressure switches, temperature switches, solenoid valves, relays, analog devices, transducers, level transmitters, flow transmitters, pressure transmitters, temperature transmitters, encoders, linear transducers, thermocouples, RTDs, AutoCAD, electrical drawings, piping and instrumentation diagram (P&ID), process flow diagrams (PFD), Bill of Materials (BOM), technical writing and training, operation/maintenance manuals, procedures and training.

Industrial Machine Safety: guarding, emergency stops, Lockout/Tagout, safety light curtains, safety mats, safety gates, safety area scanners, two hand controls, guard doors, safety relays, safety PLCs, safety interlocks, failsafe modes, warnings, instructions, training.

Electrical Power Distribution: transformers, power supplies, disconnects, fuses, circuit breakers, AC motors, DC motors, servo motors, motor controls, variable frequency drives (VFD), vector drives, motor starters, relays, contactors, uninterruptible power supplies (UPS), batteries, emergency generators, inverters, chargers, power factor, harmonics, connectors, splices, terminals, terminations, wiring, cables, receptacles, GFCI, AFCI, bus bars, power distribution blocks, grounding, lightning protection, metering, circuit breakers, conduit, distribution panels, utility distribution and utility services.

Appliances/Equipment: furnaces, boilers, pumps, water heaters, ranges, stoves, dishwashers, refrigerators, space heaters, toasters, coffee pots, clothes washers, clothes dryers, dehumidifiers, dish washers, refrigerators, freezers, air conditioners, dehumidifiers, refrigeration compressors, computers, uninterruptible power supplies, emergency power systems, batteries, power tools, vape devices, e-cigarettes, lithium-ion batteries, personal medical alert device systems, battery chargers, inverters and power strips.

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Industrial/Facilities/Construction Equipment: cranes, gantries, elevators, conveyors, turn tables, lifts, material handling, packaging, shipping docks, balers, compactors, palletizers, wrappers, scales, aerial lifts, boom lifts, scissor lifts, forklifts, pallet jacks, motors, speed control, HVAC systems, air conditioners, refrigeration, fans, pumps, blowers, compressors, and boilers.

Workplace Safety: Machine guarding, machine controls, lockout/tagout, electrical safety, Personal Protective Equipment (PPE), emergency stops, safety light curtains, safety mats, safety gates, two hand control, work procedures, work instructions, hazard analysis, risk assessments.

Electric Shocks / Electrocutions: electrical shock injuries, arc flashes, electrical faults, static shocks, Ground Faults Circuit Interrupters (GFCI), Arc Fault Circuit Interrupters(AFCI).

Fires: Electrical causes of fires, failure analysis, fire alarm systems, smoke detectors, heat detectors, carbon monoxide detectors, gas detectors, lithium-ion batteries.

Project Management / Construction Management / Contracting: commercial contracts, agreements, request for quote (RFQ), proposals, purchase orders (PO), change orders, change requisition, addendums, bulletins, submittals, bid specifications, scope of work, functional specifications, factory acceptance test (FAT), site acceptance test (SAT), commissioning, verification, schedules, budgets, staffing, efficiency, utilization.

National Electrical Code, National Electrical Safety Code, Electrical Safety in the Workplace, OSHA Standards for General Industry, OSHA Electrical Safety Standards.

2015 to
present

Dynamo Engineering

President/Electrical Engineer/Consultant

- Electrical Engineering
- Industrial Controls and Automation Design and Development
- Industrial Machinery Safeguarding and Safety Risk Assessments
- Workplace Safety Assessments
- Project Management
- Industrial/Commercial Energy Conservation

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- 1997 to 2015 **Patti Engineering**
Vice President of Operations 2002-2015
- Industrial automation, control systems, machine control, process control, manufacturing automation, process control, industrial controls, project management, software development (PLC, SCADA, HMI, MES, DCS), electrical controls design, equipment installations, upgrades, power distribution, robotics, motion control, conveyor systems, assembly lines, warehousing, vision systems, RF Radios, RFID, barcode, control panel design build, machine safety, AC/DC/servo drives, CNC, pneumatics, hydraulics, alarming, data collection, data reporting, vision inspection systems, material handling, warehousing, ASRS across various industries: automotive, food, beverage, water, waste water, chemicals, manufacturing, distribution, warehousing, aggregates, etc.
 - Managed all electrical controls automation projects (hardware design, software development, machine safeguarding, startups, service calls, warranty work)
 - Managed project schedules, budgets and change orders
 - Developed / maintained company procedures, methodologies and documentation
 - Managed Engineering, HR, Accounting, Safety departments
 - Recruiting, training, evaluations of engineers
 - Managed CSIA Certification, UL certification
 - Managed vendor partnerships
 - Managed subcontractors - developed RFQ and negotiated contracts
 - Forensic Engineering, Expert Witness
- Senior Electrical Controls Engineer* 1997-2002
- Lead Engineer and Project Manager on electrical controls automation projects
 - Managed project schedules, budgets, specifications, contracts and change orders
 - Electrical control panel design in AutoCAD
 - PLC / HMI / GUI / SCADA software programming
 - Machine safeguarding, Lockout, safety controls
 - Onsite start-up, commissioning and troubleshooting
 - Developed operation and maintenance manuals
 - Trained customers on system operation and maintenance
- 1994 to 1997 **Power Saving Systems**
President/Electrical Engineer (self employed)
- Performed industrial/commercial energy audits, analyzed electric and gas consumption
 - Engineered energy and cost saving solutions, lighting upgrades, power factor correction, peak demand billing, equipment utilization
 - Managed project installations, start-up and testing

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- 1988 to 1994 **DuPont**
Product Development Engineer, Wilmington, DE 1993-1994
- Developed and commercialized a fully automated biochemical instrument which detects and identifies bacteria in food
 - Optimized equipment and process parameters thru testing and statistical analysis
 - Provided onsite technical support to customers
 - Liaison between R+D, manufacturing and sales
 - Developed documentation for instrument installation, operation and maintenance
 - Trained customers on instrument installation, operation and maintenance
- Corporate Engineering Recruiter*, Wilmington, DE 1992-1993
- Interviewed, evaluated and selected BS, MS and PhD engineering candidates in all disciplines (electrical, mechanical, chemical, biological, and environmental) for placement throughout the corporation.
 - Managed and coordinated recruiting visits to numerous universities
- Project Engineer, Manufacturing Supervisor*, Poughkeepsie NY/Danbury CT 1990-1992
- Installed, started-up, operated and maintained an automated robotic manufacturing cell in a class 1 clean room producing pellicles for the electronics industry
 - Installed, started-up, operated a vacuum forming operation for pellicle packaging
 - Optimized equipment and process to improve product quality and efficiency
 - Hired, trained, supervised all operators/technicians
 - Managed production, QA, maintenance, scheduling, and raw material inventory
 - Developed all documentation for operation, maintenance and troubleshooting
- Process Engineer – Tyvek Manufacturing*, Richmond VA 1988-1990
- Increased process efficiency by improving yield, thru-put, and reliability
 - Optimized process parameters to improve product quality and yield
 - Assisted in the operation and development of the Honeywell TDC3000 Distributed Control System (DCS)
 - Assisted R+D and Marketing to develop new products
- 1986 to 1987 **Wisconsin Electric**, Milwaukee, WI
Distribution Engineering Technician (Co-op Student)
- Inspected, planned, designed residential electrical services (overhead and underground)
 - Inspected, verified, inventoried electrical distribution equipment (poles, transformers, etc)
 - Updated electrical distribution layout drawings
 - Inspected overhead distribution lines
 - Inspected electrical distribution poles

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PROFESSIONAL CREDENTIALS

Professional Engineer: NCEES, Arizona, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, New Mexico, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin
Certified Fire and Explosion Investigator (CFEI)
American Boat Yacht Council (ABYC) – Marine Electrical Certification (Dec 2015)

EDUCATION

Bachelor of Science, Electrical Engineering
Illinois Institute of Technology, Chicago, Illinois, 1988
MBA courses: Accounting, Economics, Finance, Operations Management, Statistics, Marketing
University of Delaware, 1992-1994
Marist University, 1990-1992
University of Richmond, 1988-1990

Training:

OSHA 30 Hour General Industry
OSHA approved Aerial Lift Operation and Safety Certification
Fire and Arson Investigator Training
UL508A – Standard for Industrial Control panels
NFPA70 – National Electric Code
NFPA70E - Electrical Safety in the Workplace

Continuing Education:

Fire Protection Systems, 2018,
Electric Power Distribution Systems, 2018,
Battery & Other Electricity Storage Technologies, 2018,
Interior Electrical Distribution Systems, 2018,
Electric Power Requirements for Buildings, 2018,
Guide to Electrical Distribution Systems, 2018,
Indiana PE Law and Ethics, 2018,
Florida PE Law, 2018,
Control Methods of AC Induction Motors, 2018,
Design Professionals Contract Review, 2018,
Advanced Fire Investigation for Professional Engineers, 2018,
Fire due to Intentional Deviation from Design, 2018,
Forensic Analysis of a Fire and Overfilled Propane Cylinder, 2018,
Forensic Analysis of Hot Socket Problems in Electrical Meters, 2018,
Forensic Analysis of a Cloned Ignition Coil Pack, 2018,
Forensic Investigation of Furnace Oil Supply Line Fitting Leak, 2018,

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Forensic Analysis of Residential and Commercial Chairs, 2018,
Forensic Analysis - Misuse of Pressure Vessel Codes, 2018,
Solar Insolation Parameters for FE Applications, 2018,
Ethics: Conflicts of Interest, 2017,
Ethics: Autonomous Vehicles: Who's in the Driver's Seat?, 2017,
Ethics: Licensure and Professional Practice Concerns, 2017,
Ethics: Lessons from Forensic Engineer, 2017,
Ethics: Protecting the Public Health and Safety & Demonstrating Competence, 2017,
Fire Investigation - Electrical Arc Mapping, 2017,
Residential Natural Gas Systems, 2017,
Residential Electrical Systems, 2017,
OSHA General Industry - OSHA 29 CFR 1910 - 30 Hr, 2017,
Investigation of Gas and Electric Appliance Fires, 2017,
IEEE 3006.7 Reliability of Continuous Power Systems in Industrial and Commercial Facilities,
2017,
LED Street Lighting, 2017,
Design Professional Legal Liability workshop, 2017,
AC vs DC: Resurrection of Westinghouse and Edison debate, 2017,
Residential Building Construction, 2016
Reduce Scope Creep and Get Paid for Extra Services, 2016
Selling the Professional Services Firm: Architects and Engineers, 2016
Seven Secrets of Super Successful Project Managers, 2016
Ethics: Conflicts of Interest, Confidentiality and the Public Health Safety Welfare, 2016
Ethics: Employment and Professional Practice, 2016
Ten Uber-Trends Changing Everything in Business and Our World, 2016
Ethics Forum: Engineering Expert Witnesses and Litigation, 2016
Texas Statutes, Rules, and Ethics for Professional Engineers, 2016
Wisconsin Statutes, Rules, and Ethics for Professional Engineers, 2016
Indiana Statutes, Rules, and Ethics for Professional Engineers, 2016
New Battery Technologies, 2016
Understanding Fire through the Candle Experiments, 2016
Fire Investigator - Scene Safety, 2016
Fire and Arson Investigator Academy, 2016
Fire Investigator - Scientific Method, 2016
Marine Electrical Training and Certification, 2015
Electric Shock Drowning, 2015
NFPA 70E - Electrical Safety in the Workplace, 2015
NFPA 70 - National Electric Code, 2015
Electric Power Substations, 2015
Electric Power Generation, 2015
Electric Power Transmission and Distribution, 2015
The Pros & Cons of Using Consultants, 2015
Ethics and Sustainable Development, 2015
Team Building Skills for Engineers, 2015
Leading as an Engineering Responsibility, 2015

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Seven Secrets to Successful Negotiation, 2015
Ethics and Risk Management, 2015
Engineering Ethics: Professional Issues, 2015
How Effective Leaders Manage Conflict, 2015
Fire Investigators 10 Most Common Errors, 2015
Fire Investigators Report Writing, 2015
Engineering Ethics: Technical Issues, 2015
Engineering Ethics: Business Issues, 2015
Expert Witness Daubert Challenge, 2015
Chemistry of Fire, 2015
Engineering Ethics Expert Witness and Engineering Review Issues, 2014
Conduct Effective Meetings, 2013
NSPE –Conflicts of Interest Proposed Federal Rules, 2013
Federal Contracting Laws, 2013
Legal Realities of Project Scheduling, 2013
Strategic Planning, 2013
Maintaining Objectivity Truthfulness, Preserving Confidentiality, 2013
Impact of the Ongoing Economic Crisis on Engineering Ethics, 2013
Project Management and Ethics, 2013
Whistleblowing - PEs Obligations to Report Misconduct, 2013
Project Management, 2012

PROFESSIONAL MEMBERSHIPS

National Academy of Forensic Engineers (NAFE)
National Society of Professional Engineers (NSPE)
Michigan Society of Professional Engineers (MSPE)
National Fire Protection Association (NFPA)
Nation Association Fire Investigators (NAFI)
American Association of Safety Engineers (ASSE)
Institute of Electrical and Electronics Engineers (IEEE)
American Boat Yacht Council (ABYC)
Underwriters Laboratories Standards Technical Panel 60947 - Industrial Control Equipment,
Low-Voltage Switchgear and Controlgear, Contactors and Motor Starters
Underwriters Laboratories Standards Technical Panel 61496 - Safety Light Curtains
Underwriters Laboratories Standards Technical Panel 60730D - Timer Controls
Underwriters Laboratories Standards Technical Panel 60730E - Appliance Controls
Underwriters Laboratories Standards Technical Panel 1998 - Software in Programmable
Components
Underwriters Laboratories Standards Technical Panel 1026 - Electric Cooking Appliances
Underwriters Laboratories Standards Technical Panel 2157 - Electric Clothes Washers and
Dryers

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PUBLICATIONS AND PRESENTATIONS

Siemens Automation Summit – Users Technical Conference presentation, Time to Market -
Engine Assembly Build during Production, June 2014
Indusoft webinar presentation, System Integrator Best Practices Webinar, March 2013
Control System Integrators Association – Annual Conference presentation, Top 5 Secrets to
Passing the CSIA Registration Audit, April 2003

OTHER EXPERIENCE

Boating (inland water): Recreational boating, PWC's (sit-down and stand-up), kayaks and
canoes, including maintenance, modifications, repairs, rebuilding. Boating safety
navigation rules/laws. Completed Safety Certification training.
Snowmobiling: Recreational snowmobiling, including maintenance, repairs, rebuilding.
Snowmobiling rules/laws. Completed Safety Certification training.
Automobiles classic/historic: maintenance, modifications, repairs, rebuilding.
Home Remodeling: Completely restored/remodeled a 95 year home - electrical, plumbing,
mechanical, framing, stairs, cabinetry, roofing, siding, decking.
Sports and activities: swimming, biking, running, triathlons, boating, canoeing, kayaking.

VOLUNTEER ACTIVITIES

First Robotics: Mentor/Coach for High School robotics team. Robot Inspector, 2010-2015
Christmas in Action: home renovation projects for the elderly, 2005-present
Meals on Wheels: deliver meals to the elderly, 2002-present
Boy Scouts of America: Assistant Scoutmaster, Eagle Scout Advisor, Treasurer, 2000-2014
Habitat for Humanity: home building – framing, roofing, siding, drywall, trim, cabinetry,
painting, electrical, plumbing, managed electrical, mechanical, plumbing, and
foundation contractors, 1994-2004